

Building Competency in Middle School Mathematics

The Power of Utilizing Tasks that Develop Conceptual Understanding

The ability to reason proportionally is at the forefront of middle school mathematics. Coupled with a conceptual understanding of functions and their multiple representations, these critical areas are crucial for students when building competency in middle school mathematics. So how can this be achieved? What can teachers do to bridge the gap from numbers to symbolic rules to functions? How can we teach math for conceptual understanding? Join WKU Mathematics Associate Professor, Dr. Hope Marchionda, and GRREC Mathematics Instructional Specialist, Kim Estes, as they facilitate an engaging and informative two-day workshop designed to support teachers in utilizing rich tasks that develop students' conceptual understanding of these critical areas in middle school mathematics. Participants will leave with ready-to-use tasks that develop and deepen key understanding and skills in both proportional reasoning and algebraic representations of functions. Lessons will be modeled that support students in perceiving algebra as concrete and practical.

During this workshop, participants will:

- Acquire practical ways to incorporate tasks into their classrooms
- Work through tasks that assess students' knowledge and misconceptions
- Distinguish between questions for struggling students, students on task, and students who need extensions
- Analyze a case study related to teacher decision-making and student thinking about mathematics
- Experience student-centered tasks that bring clarity to the abstract world of algebraic reasoning through representation

PGES Connections

Domain 1: Planning & Preparation

- *Component 1e: Designing Coherent Instruction*

Domain 2: Classroom Environment

- *Component 2b: Establishing a Culture for Learning*

Domain 3: Instruction

- *Component 3b: Using Questioning and Discussion Techniques*
- *Component 3c: Engaging Students in Learning*

Domain 4: Professional Responsibilities

- *Component 4e: Growing and Developing Professionally*

Audience:	Middle School Mathematics Teachers, Special Education Mathematics Teachers/Co-teachers, Curriculum Coordinators, Instructional Coaches	
Dates:	June 7 and 8, 2016	
Location:	GRREC Office & Training Facility – 230 Technology Way – Bowling Green, KY 42101	
Time:	8:30 a.m. -3:30 p.m. (CDT) Registration and Continental Breakfast will begin at 8:00 a.m. Lunch is on your own.	
Materials:	Resource books and manipulatives to support implementation of tasks	
Cost:	\$250 GRREC districts	\$500 Non-GRREC districts
EILA:	6 hours each day	

Registration Form***Building Competency in Middle School Mathematics******The Power of Utilizing Tasks that Develop Conceptual Understanding*****June 7 and 8, 2016****Workshop #116-16****GRREC Office & Training Facility • 230 Technology Way • Bowling Green, KY 42101**

Please Print:

Name: _____ Position: _____

School: _____ District: _____

Courses/Grade Levels Teaching: _____

Email: _____ Cell Phone #: _____

P.O. # _____ (required for registration)

Note: School districts (or schools) will be billed following the activity based upon registration. Cancellations must be made within five (5) working days of the activity to avoid being billed for fee. Substitutions will be allowed.

Registration Deadline: Friday, June 3, 2016**[Click Here to Register Online](#)****or****Fax the registration form to GRREC at (270) 563-2208.**

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Questions?**Contact Kim Estes at (270) 563-2113 or e-mail kim.estes@grrec.org**